

2/23

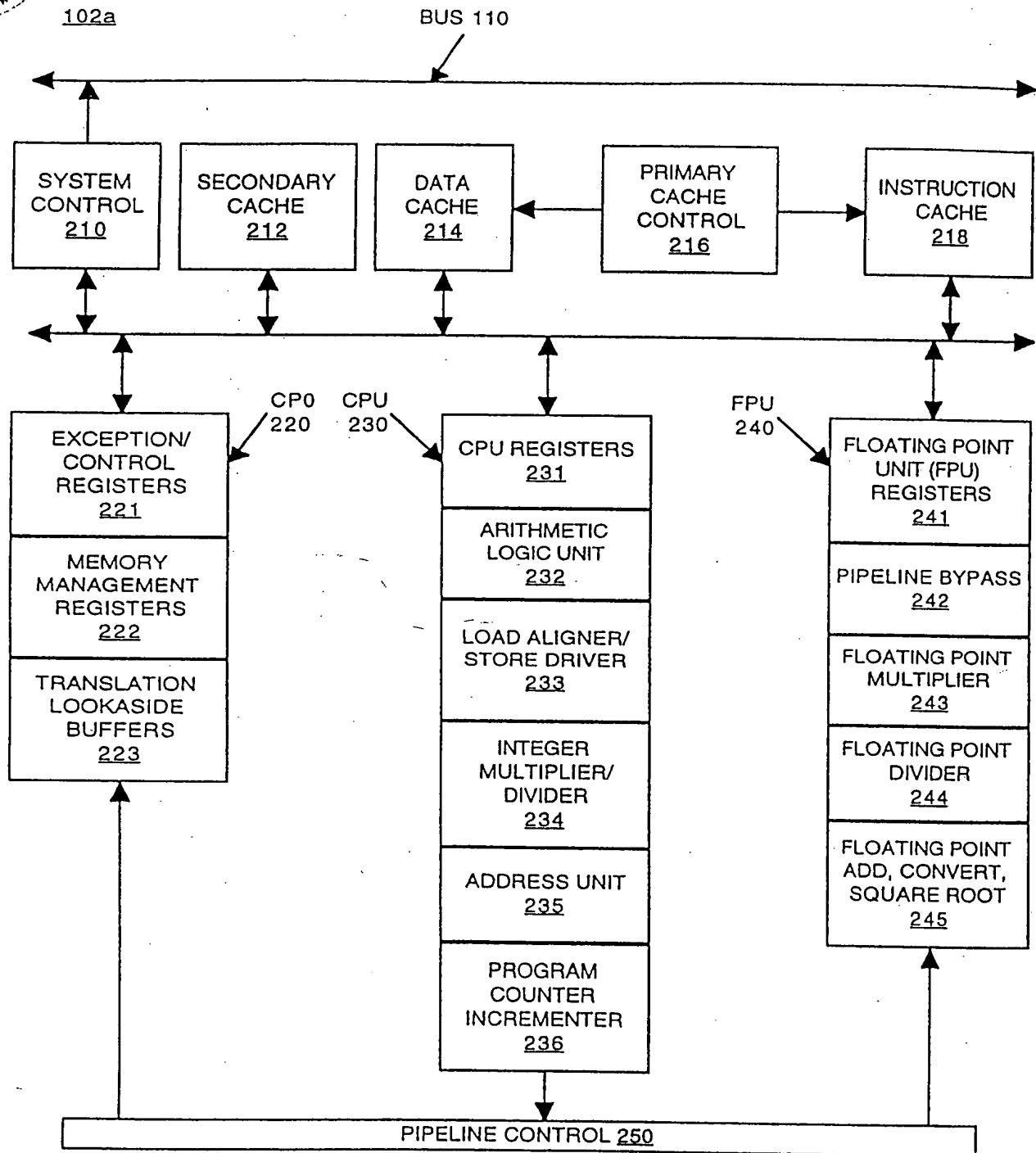


FIG. 2A

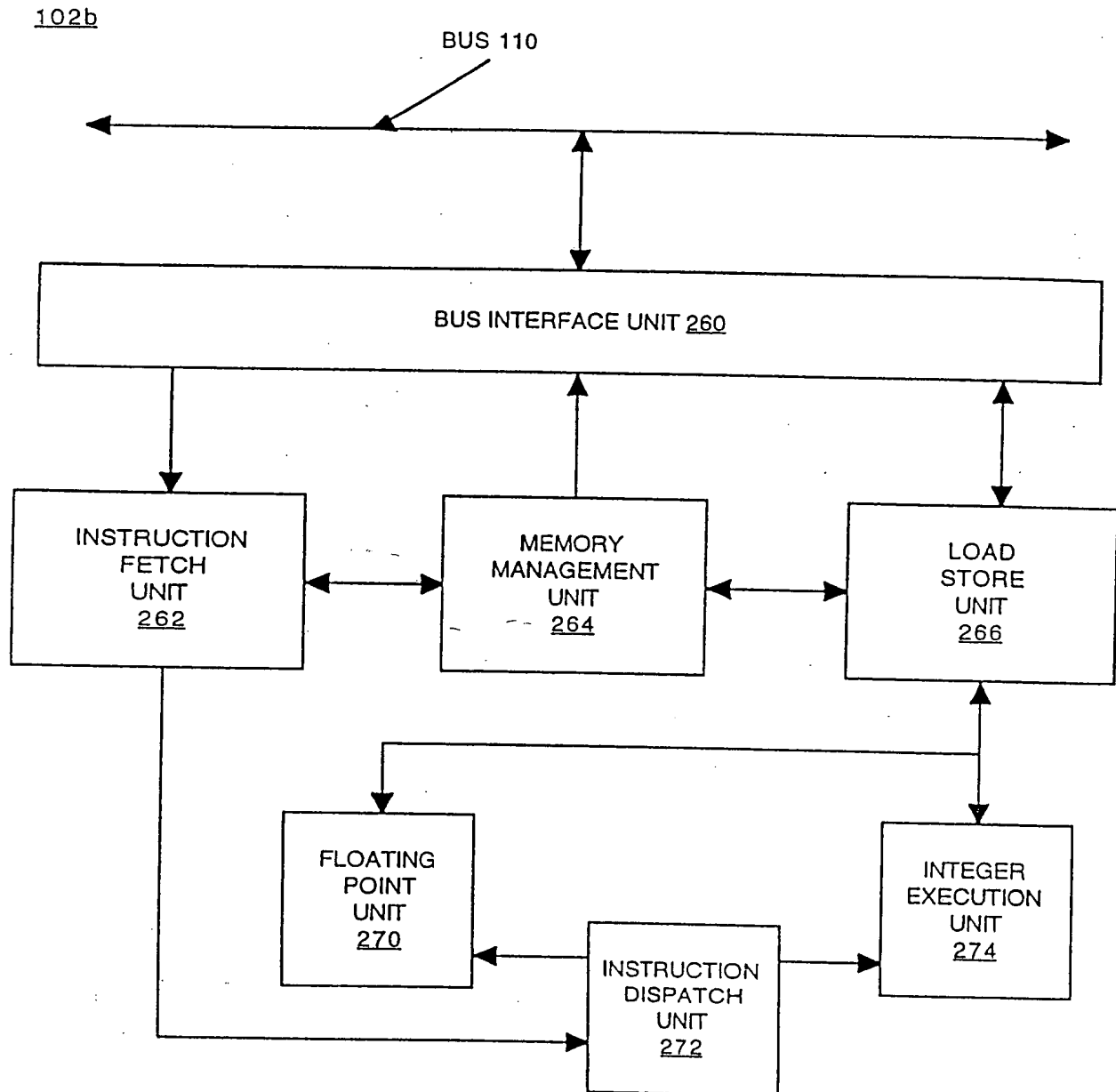


FIG.2B

4/23

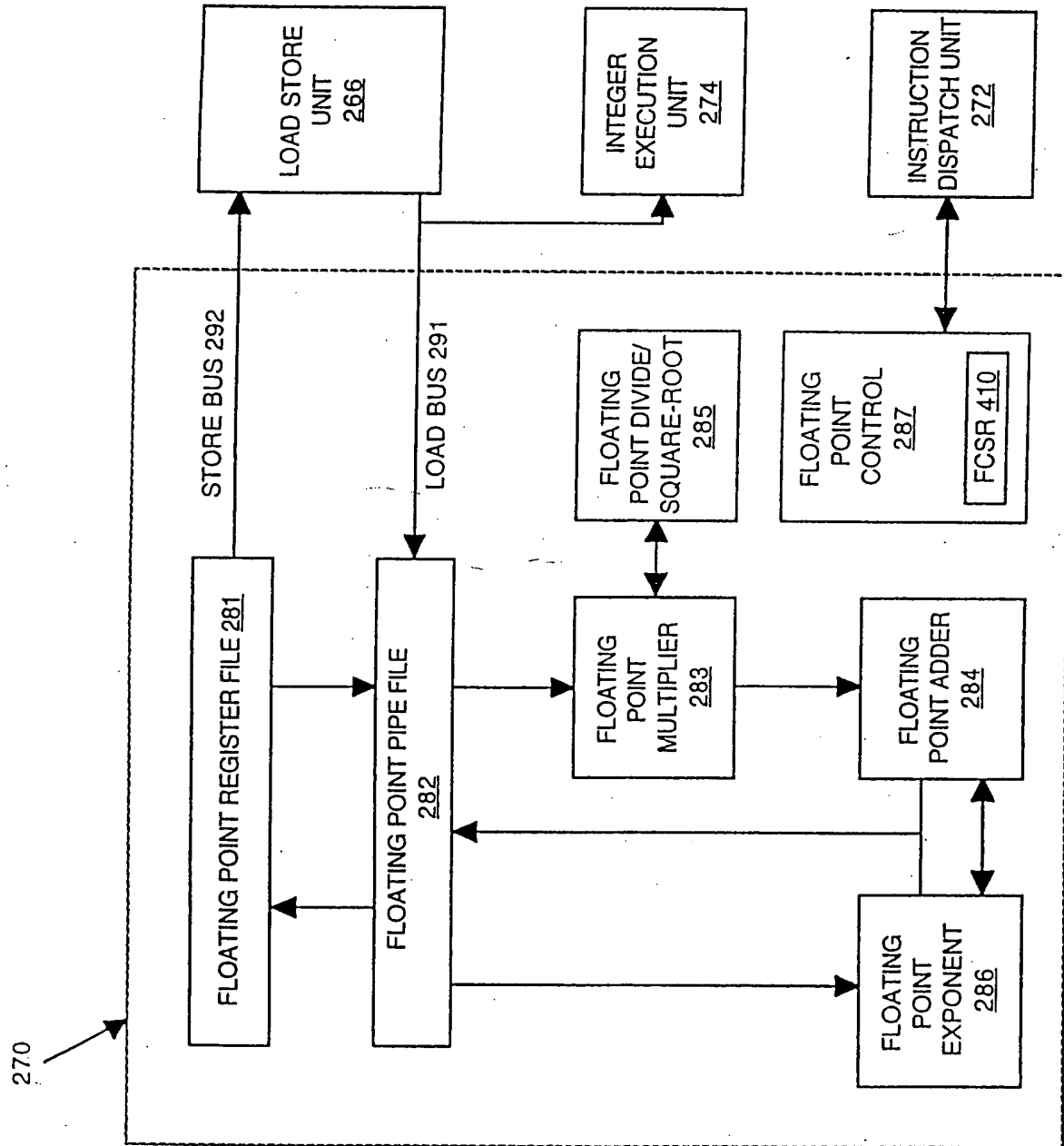


FIG. 2C



FIG. 2D



6/23

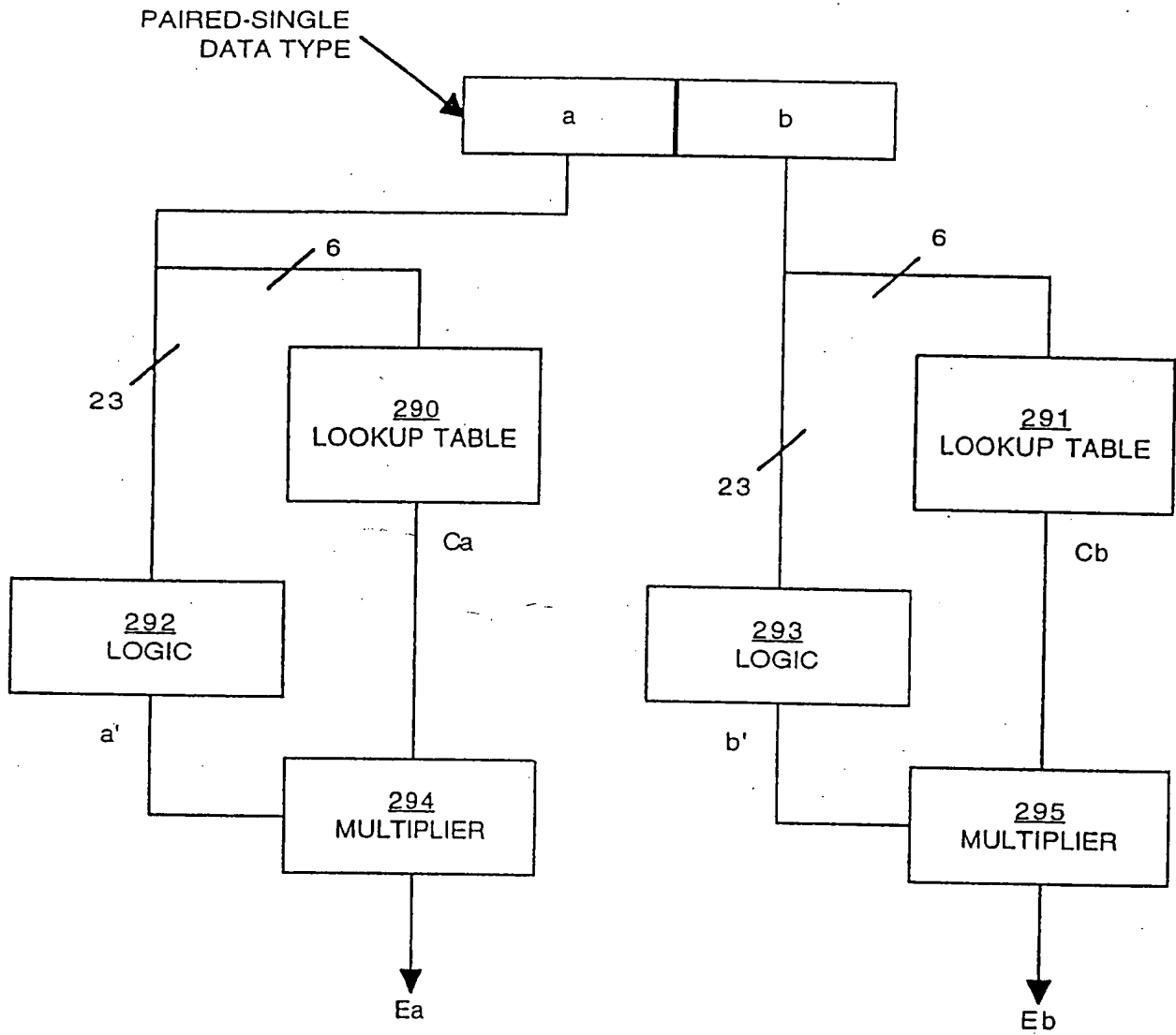


FIG. 2E

7/23

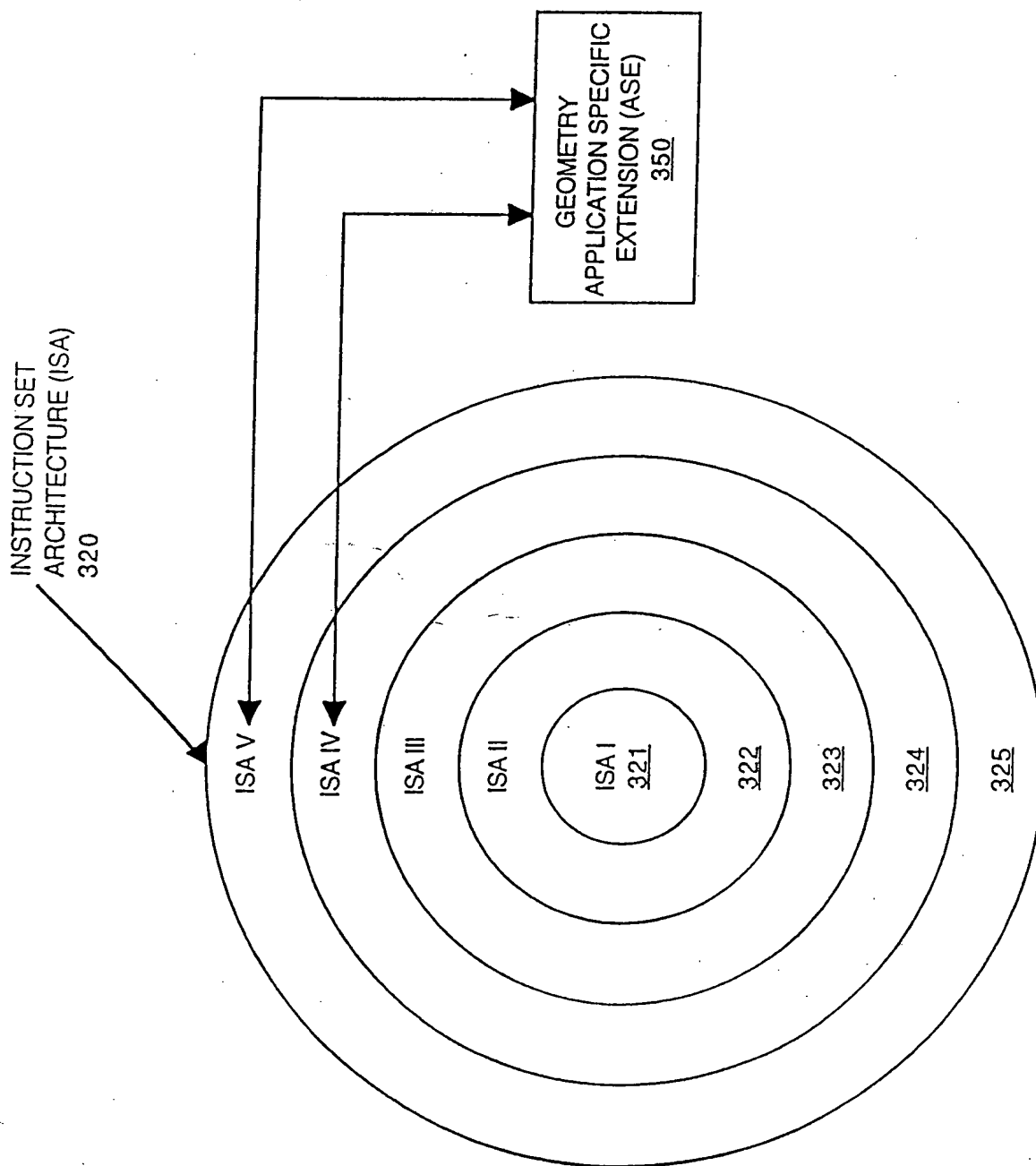


FIG.3



8/23

410

31	25	24	23	22	18	17	12	11	7	6	2	1	0
FCC	FS	FCC				CAUSE	ENABLES			FLAGS	RM		
7	1	1	5			6	5			5	2		
7	6	5	4	3	2	1	E	V	Z	0	U	I	
31	30	29	28	27	26	25	17	16	15	14	13	12	11
							10	9	8	7	6	5	4
							3	2	1	0			

FIG.4



9/23

PAIRED SINGLE
DATATYPE 520

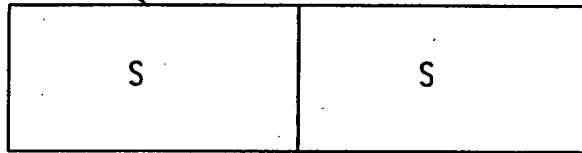
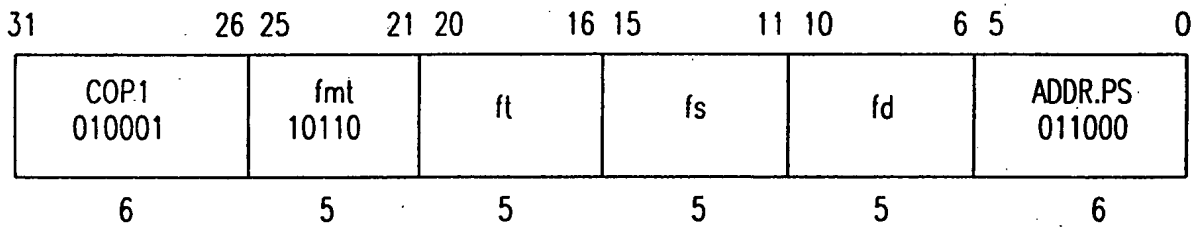


FIG.5



10/23

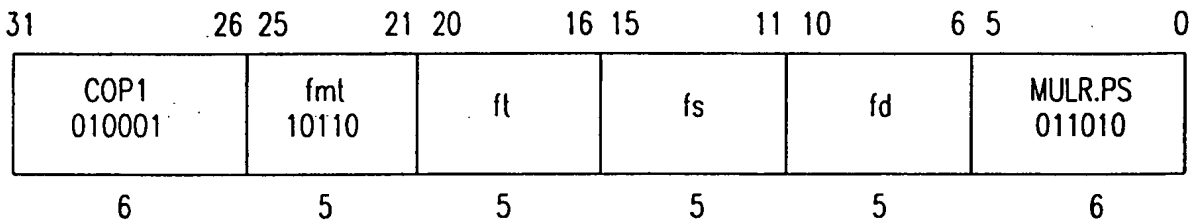
ADDR 601



FORMAT: ADDR.PS fd, fs, ft

FIG.6A

MULR 602



FORMAT: MULR.PS fd, fs, ft

FIG.6B



11/23

RECIP1 603

31	26 25	21 20	16 15	11 10	6 5	0
COP1 010001	fmt	0 00000	fs	fd	RECIP1.fmt 011101	
6	5	5	5	5	6	

FORMAT: RECIP1.S fd, fs
 RECIP1.D fd, fs
 RECIP1.PS fd, fs

FIG.6C

RECIP2 604

31	26 25	21 20	16 15	11 10	6 5	0
COP1 010001	fmt	ft	fs	fd	RECIP2.fmt 011100	
6	5	5	5	5	6	

FORMAT: RECIP2.S fd, fs, ft
 RECIP2.D fd, fs, ft
 RECIP2.PS fd, fs, ft

FIG.6D



12/23

RSQRT1 605

31	26 25	21 20	16 15	11 10	6 5	0
COP1 010001	fmt	0 00000	fs	fd	RSQRT1.fmt 011110	
6	5	5	5	5	6	

FORMAT: RSQRT1.S fd, fs
 RSQRT1.D fd, fs
 RSQRT1.PS fd, fs

FIG.6E

RSQRT2 606

31	26 25	21 20	16 15	11 10	6 5	0
COP1 010001	fmt	ft	fs	fd	RSQRT2.fmt 011111	
6	5	5	5	5	6	

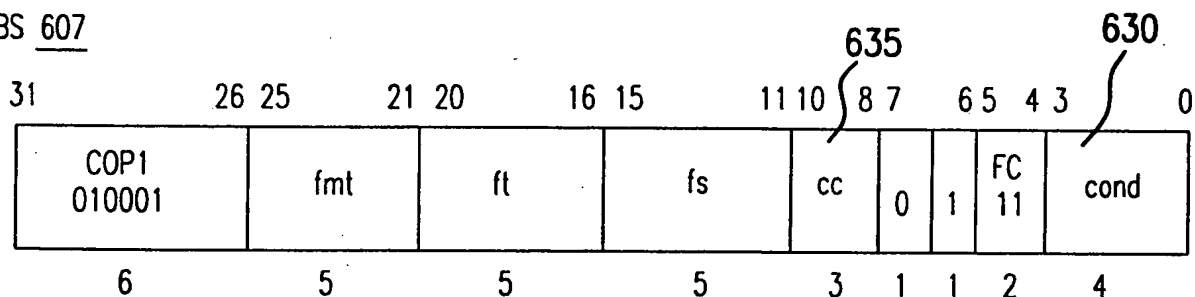
FORMAT: RSQRT2.S fd, fs, ft
 RSQRT2.D fd, fs, ft
 RSQRT2.PS fd, fs, ft

FIG.6F



13/23

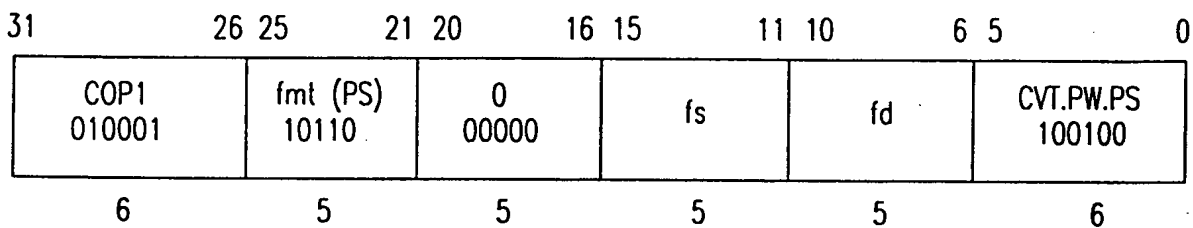
CABS 607



FORMAT: CABS.cond.S cc, fs, ft
 CABS.cond.D cc, fs, ft
 CABS.cond.PS cc, fs, ft

FIG.6G

CVT.PW.PS 608



FORMAT: CVT.PW.PS fd, fs

FIG.6H



14/23

CVT.PS.PW 609

31	26 25	21 20	16 15	11 10	6 5	0
COP1 010001	fmt (W) 10101	0 00000	fs	fd	CVT.PS.PW 100110	
6	5	5	5	5	6	

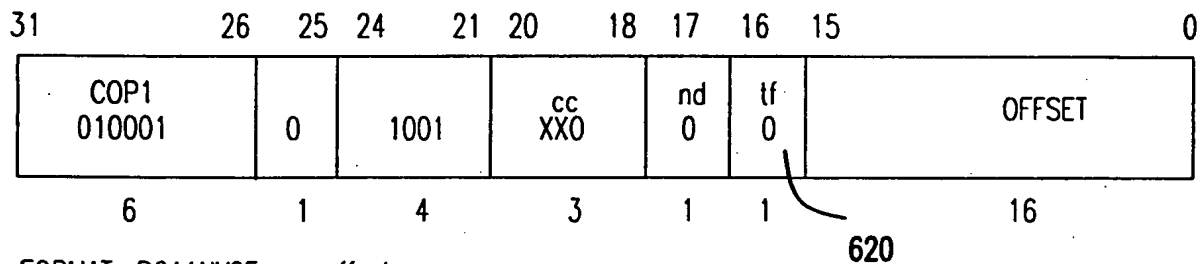
FORMAT: CVT.PS.PW fd, fs

FIG.6I



15/23

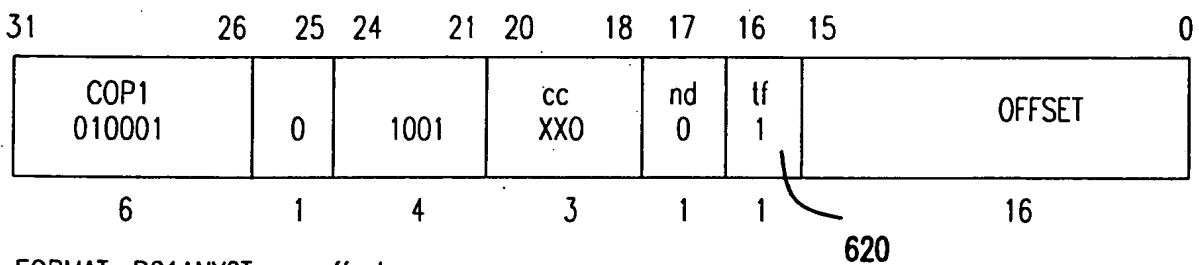
BC1ANY2F 610



FORMAT: BC1ANY2F cc, offset

FIG.6J

BC1ANY2T 611



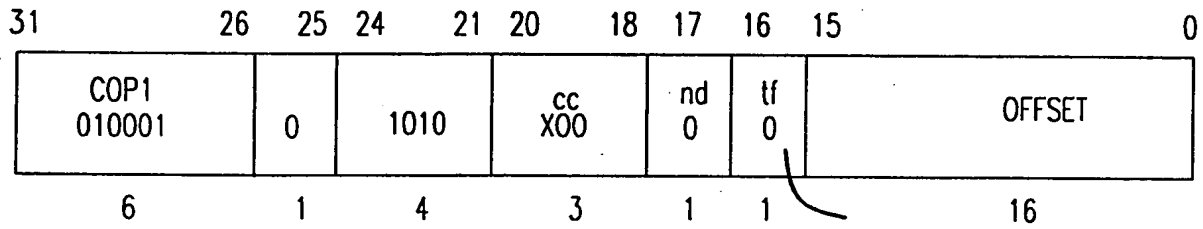
FORMAT: BC1ANY2T cc, offset

FIG.6K

16/23



BC1ANY4F 612

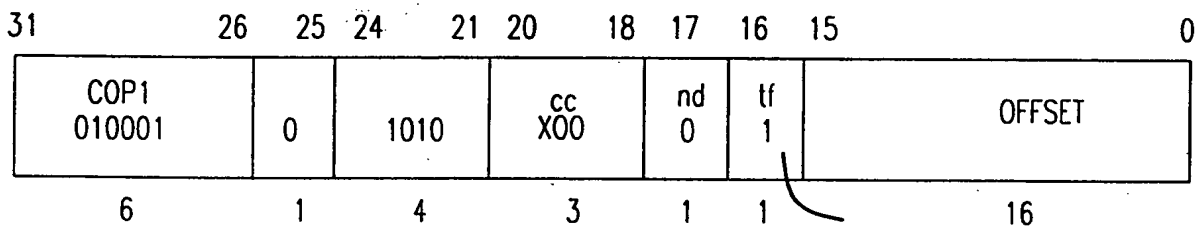


FORMAT: BC1ANY4F cc, offset

620

FIG.6L

BC1ANY4T 613



FORMAT: BC1ANY4T cc, offset

620

FIG.6M

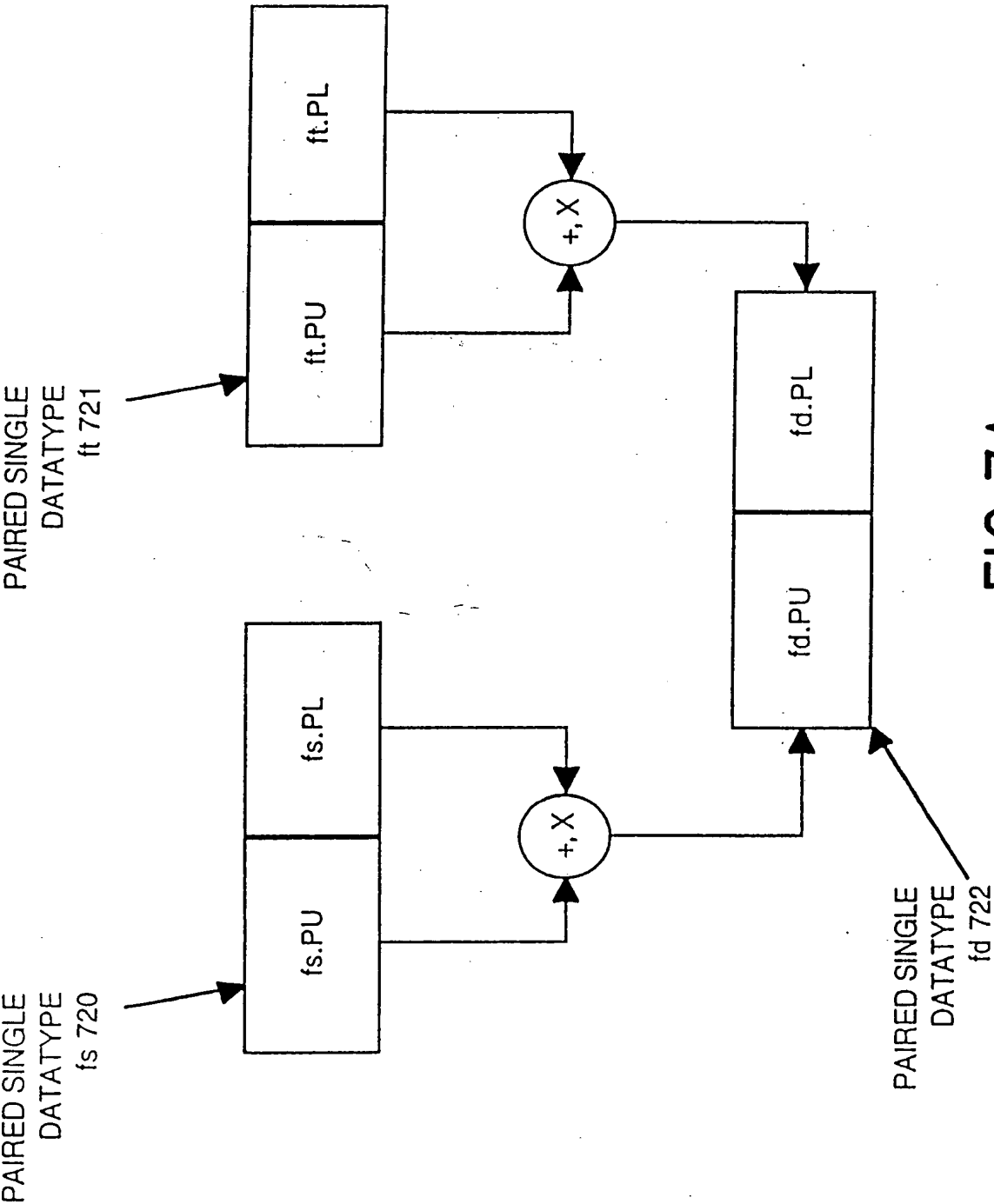
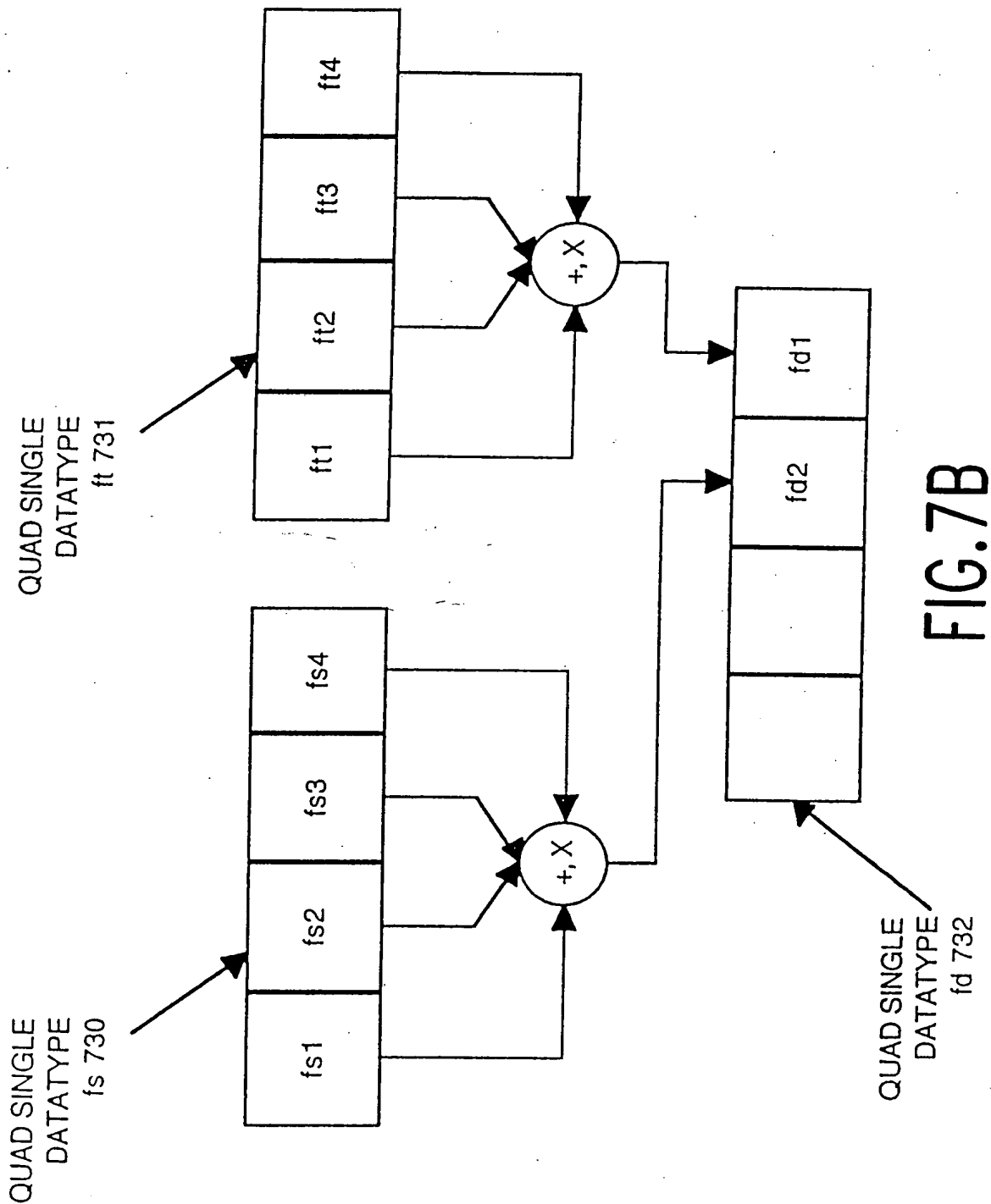


FIG. 7A



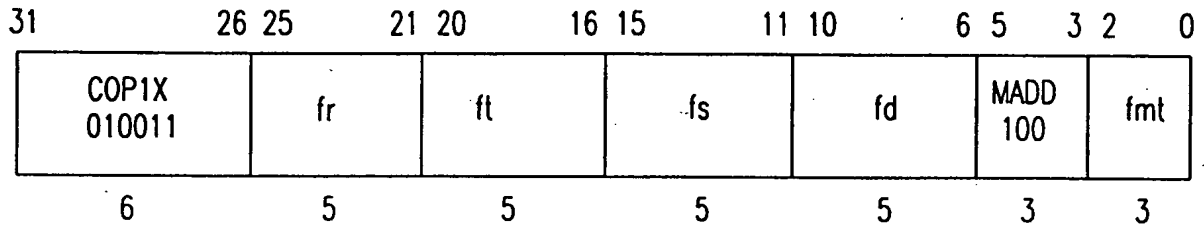
18/23



19/23

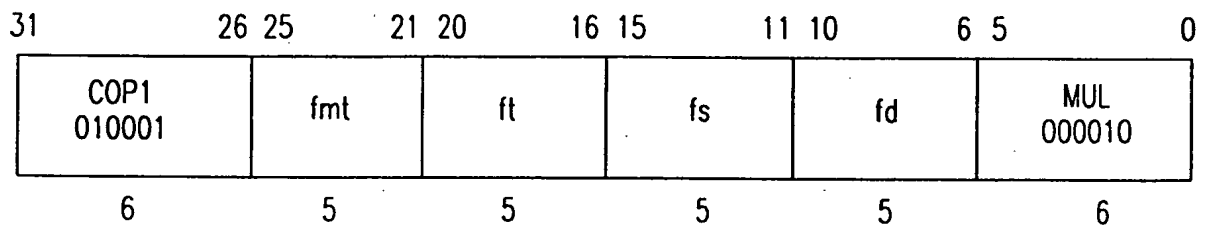


MADD 801



FORMAT: MADD.S fd, fr, fs, ft
 MADD.D fd, fr, fs, ft
 MADD.PS fd, fr, fs, ft

FIG.8



FORMAT: MUL.S fd, fs, ft
 MUL.D fd, fs, ft
 MUL.PS fd, fs, ft

FIG.9



CVT.PS.S 1001

31	26 25	21 20	16 15	11 10	6 5	0
COP1 010001	fmt 10000	ft	fs	fd	CVT.PS 100110	
6	5	5	5	5	6	

FORMAT: CVT.PS.S fd, fs, ft

FIG.10



21/23

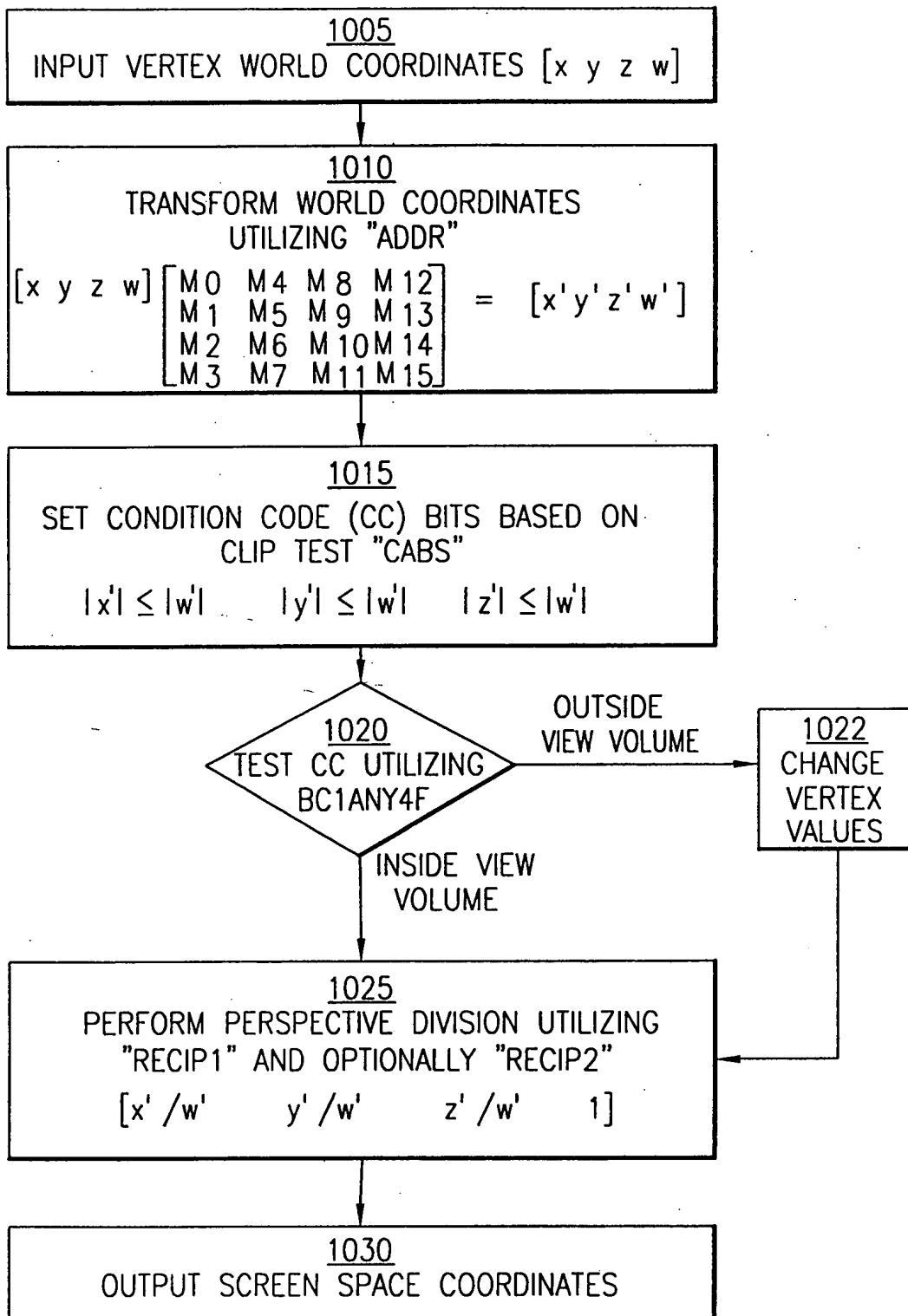


FIG. 11A

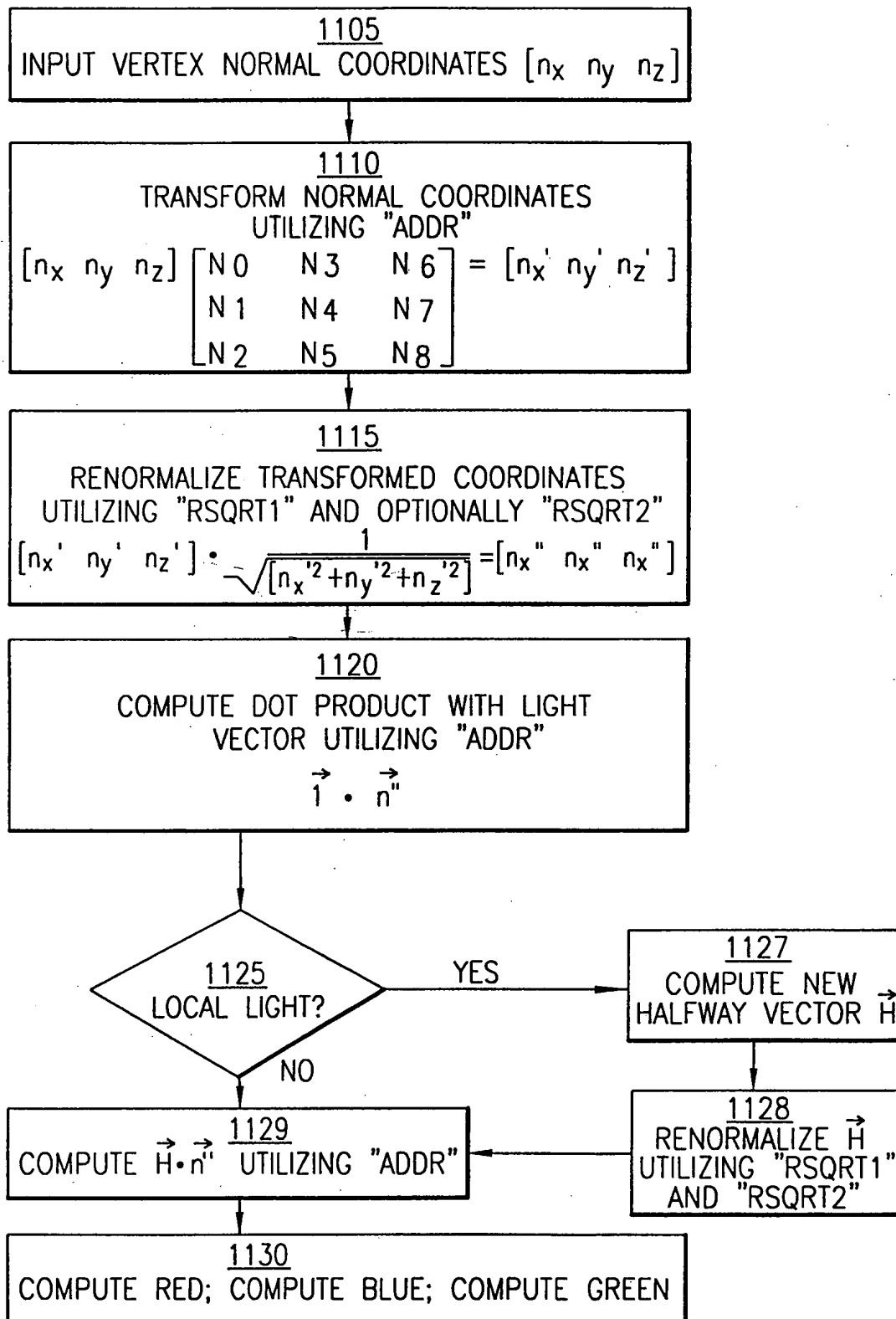


FIG. 11B



23/23

3D MATRIX TRANSFORM

$$\begin{bmatrix} M_0 & M_4 & M_8 & M_{12} \\ M_1 & M_5 & M_9 & M_{13} \\ M_2 & M_6 & M_{10} & M_{14} \\ M_3 & M_7 & M_{11} & M_{15} \end{bmatrix} \begin{bmatrix} x, y, z, w \end{bmatrix}^*$$

fp0-fp7 CONTAIN THE 4x4 MATRIX IN PAIR SINGLE FORMAT
 #BASE CONTAINS THE ADDRESS OF THE NEXT VECTOR AS TWO PAIR SINGLE VALUES

1d	fp10, 0(base)	# fp10:	y x
1d	fp11, 8(base)	# fp11:	w z
# fp10 AVAILABLE HERE ASSUMING L1 CACHE HIT. USE PREFETCH TO ACCOMPLISH THIS			
mul.ps	fp14, fp10, fp4	# fp14:	M _{9y} M _{8x}
mul.ps	fp15, fp10, fp6	# fp15:	M _{13y} M _{12x}
mul.ps	fp12, fp10, fp0	# fp12:	M _{1y} M _{0x}
mul.ps	fp13, fp10, fp2	# fp13:	M _{5y} M _{4x}
# fp14 AVAILABLE HERE			
madd.ps	fp14, fp14, fp11, fp5	# fp14:	M _{11w} +M _{9y} M _{10z} +M _{8x}
madd.ps	fp15, fp15, fp11, fp7	# fp15:	M _{15w} +M _{13y} M _{14z} +M _{12x}
madd.ps	fp12, fp12, fp11, fp1	# fp12:	M _{3w} +M _{1y} M _{2z} +M _{0x}
madd.ps	fp13, fp13, fp11, fp3	# fp13:	M _{7w} +M _{5y} M _{6z} +M _{4x}
ssnop			
# fp14, fp15 AVAILABLE HERE			
addr.ps	fp11, fp15, fp14	# fp11:	w' z'
# fp12, fp13 AVAILABLE HERE			
addr.ps	fp10, fp13, fp12	# fp11:	M _{15w} +M _{14z} +M _{13y} +M _{12x} M _{11w} +M _{10z} +M _{9y} +M _{8x}
		# fp10:	y' x'
		# fp10:	M _{7w} +M _{6z} +M _{5y} +M _{4x} M _{3w} +M _{2z} +M _{1y} +M _{0x}

FIG.12